

Claims

- [c1] A threaded pipe connection comprising:
a pin member having an external thread increasing in width in one direction, the
external thread comprising load and stab flanks;
a box member having an internal thread increasing in width in the other direction
so that complementary internal and external threads move into engagement
upon make-up of the connection, the internal thread comprising load and
stab flanks;
a positive stop torque shoulder; and
wherein the width of the internal thread and external thread are selected to provide
a selected clearance at least between the internal load and stab flanks and
the external load and stab flanks upon initial engagement of the positive
stop torque shoulder.
- [c2] The threaded pipe connection of claim 1 wherein:
the pin member has an outer diameter shoulder;
the box member has a face; and,
the positive stop torque shoulder is located at an interface of the box face and the
pin outer diameter shoulder.
- [c3] The threaded pipe connection of claim 1 wherein:
the pin member has a nose;
the box member has an inner diameter shoulder; and,
the positive stop torque shoulder is located at an interface of the pin nose and the
box inner diameter shoulder.
- [c4] The threaded pipe connection of claim 1 wherein:

the external thread of the pin member is formed in a two-step thread configuration having an outer diameter shoulder;

the internal thread of the box member is formed in a two-step thread configuration having a face; and,

the positive stop torque shoulder is located at an interface of the box face and the pin outer diameter shoulder.

[c5] The threaded pipe connection of claim 1 wherein:

the external thread of the pin member is formed in a two-step thread configuration having a nose;

the internal thread of the box member is formed in a two-step thread configuration having an inner diameter shoulder; and,

the positive stop torque shoulder is located at an interface of the pin nose and the box inner diameter shoulder.

[c6] The threaded connection of claim 1 wherein:

the external thread of the pin member is formed in a two-step thread configuration;
the internal thread of the box member is formed in a two-step thread configuration; and,

the positive stop torque shoulder is located at an interface between the two steps of the pin and box members.

[c7] The threaded connection of claim 1 wherein the threads are adapted to form a metal-to-metal seal.

[c8] The threaded connection of claim 1, wherein the internal thread of the box member comprises a tapered, internal, generally dovetail-shaped thread having stab flanks, load flanks, roots, and crests.

- [c9] The threaded connection of claim 1, wherein the external thread of the pin member comprises a tapered, internal, generally dovetail-shaped thread having stab flanks, load flanks, roots, and crests.
- [c10] A method comprising:
rotationally engaging a pin member and a box member, the pin member having an external thread increasing in width in one direction, the external thread comprising load and stab flanks, the box member having an internal thread increasing in width in the other direction, the internal thread comprising load and stab flanks, the pin member and box member defining a positive stop torque shoulder wherein the widths of the external thread and the internal thread are selected such that when the positive stop torque shoulder engages, a selected clearance exists between the external thread and internal thread.
- [c11] The method of claim 10 wherein the positive stop torque shoulder is disposed at an interface of a box face disposed on the box member and a pin outer diameter shoulder disposed on the pin member.
- [c12] The method of claim 10 wherein the positive stop torque shoulder is disposed at an interface of a pin nose disposed on the pin member and a box inner diameter shoulder disposed on the box member.
- [c13] The method of claim 10 wherein the external thread of the pin member has a two-step configuration having an outer diameter shoulder, the internal thread of the box member has a two-step configuration having a face, and the positive stop torque shoulder is disposed at an interface of the box face and the pin outer diameter shoulder.

- [c14] The method of claim 10 wherein the external thread of the pin member has a two-step configuration having a nose, the internal thread of the box member has a two-step configuration having an inner diameter shoulder, and the positive stop torque shoulder is disposed at an interface of the pin nose and the box inner diameter shoulder.
- [c15] The method of claim 10 wherein the internal thread of the pin member has a two-step configuration, the external thread of the box member has a two-step configuration, and the positive stop torque shoulder is disposed at an interface between the two steps of the pin and box members.
- [c16] The method of claim 10 wherein the internal and external threads are adapted to form a metal-to-metal seal.
- [c17] The method of claim 10 wherein the internal thread of the box member comprises a tapered, internal, generally dovetail-shaped thread having stab flanks, load flanks, roots, and crests.
- [c18] The method of claim 10 wherein the external thread of the pin member comprises a tapered, internal, generally dovetail-shaped thread having stab flanks, load flanks, roots, and crests.